

REMARKS/ARGUMENT

The applicant's attorneys appreciate the Examiner's thorough search and remarks.

Claims 9-14 are pending. Claim 15 is new. Consideration of claim 15 is requested.

Responsive to paragraph 3 of page 2 of the Office Action, claim 9 has been amended to provide "diffusing second base diffusion stripes to a depth below that of said source diffusions". This amendment is believed to recite what was inherent in the previous version of claim 9 and, therefore, does not narrow or otherwise vary the scope of claim 9. Reconsideration is requested.

Responsive to paragraphs 4 and 5 of page 2 of the Office Action, claims 11 and 12 have been amended. These claims are now believed to be sufficiently definite and consistent with the disclosure. Reconsideration is requested.

Claim 9 was rejected under 35 U.S.C. §102(e) as anticipated by Kinzer, U.S. Patent No. 5,731,604. It is respectfully submitted that Kinzer does not show or suggest each and every element of claim 9. Therefore, Kinzer does not anticipate claim 9.

For example, Kinzer does not show "implanting and diffusing a plurality of spaced first base diffusion stripes...using said stripes of polysilicon as a mask". Kinzer only shows using a photoresist 33 as a mask for implanting a first base diffusion. See Fig. 4. The photoresist 33 is then removed before implanting and driving a source diffusion. See col. 5, lines 21-24.

Additionally, Kinzer does not show or suggest "diffusing a second base diffusion stripes using said stripes of polysilicon as a mask", as provided by claim 9 (emphasis added). Rather, it only shows diffusing a second base diffusion using the openings made in LTO layer 60. See col. 7, lines 59-63; Fig. 16. Consequently, the second base diffusions in Kinzer do not have "a width substantially equal to the space between the opposite edges of adjacent pairs of said polysilicon stripes", as provided by claim 9. Rather, they have a width that is equal to the width of the openings that are formed in the LTO layer 60. See Fig. 16. This is another example of a difference between claim 9 and Kinzer. Reconsideration of claim 9 is requested.

Claims 13 depends from claim 9 and, therefore, includes its limitations. Claim 13 includes other limitations which in combination with those of claim 9 are not shown or suggested by the art of record. Reconsideration is requested.

Claims 10-12 and 14 were rejected under 35 U.S.C. §103(a) as being obvious over Kinzer. As to claims 10-12, it was set forth that varying dimensions of a device's features is a mere design expedient. The formation of polysilicon stripes of the claimed dimensions, however, has provided

unexpected results which are not predicted by the art of record. As explained in the specification, the reduction of the spacing between the polysilicon stripes results in a higher total channel width, which reduces the on resistance. It has been found that polysilicon spacing of about 1-4 microns, and preferably 1.5 microns, provide a large channel width per unit area, surprisingly with no increase in the on resistance . Spec., page 10, lines 12-18. Claim 10 provides for forming polysilicon stripes of about 3.1 microns in width and spacing of about 1.25 microns. This has been found to produce a critical minimum figure of merit for the device. Spec., page 10, lines 16-18. Claim 11 provides for forming a base diffusion of about 1.25 microns and a source diffusion of about 0.4 microns. The depth of the base and the source diffusions indirectly define the spacing between the polysilicon stripes, which as explained above is important in achieving a minimum figure of merit for the device. It is submitted, therefore, that the dimension of claims 10-12 are not mere design expedites but are important parameters in the performance of the device that is formed by the claimed process.

Reconsideration is requested.

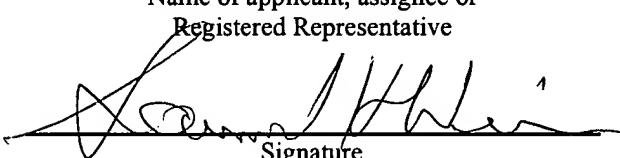
Moreover, claims 10-12 and 14 depend from claim 9, and, therefore, includes its limitations. These claims include other limitations, which in combination with those of claim 9 are not shown or suggested by the art of record. Reconsideration is requested.

With these amendments the application is believed to be in condition for allowance. Such action is earnestly requested.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, on August 10, 2001

Samuel H. Weiner

Name of applicant, assignee or
Registered Representative



Signature

August 10, 2001

Date of Signature

SHW/KS:g1

Respectfully submitted,



Samuel H. Weiner
Registration No.: 18,510
OSTROLENK, FABER, GERB & SOFFEN, LLP
1180 Avenue of the Americas
New York, New York 10036-8403
Telephone: (212) 382-0700

APPENDIX B
VERSION WITH MARKINGS TO SHOW CHANGES MADE
37 C.F.R. § 1.121(b)(iii) AND (c)(ii)

CLAIMS:

9. (Amended) The process of manufacture of a MOSgated device comprising: [the steps of] forming a gate oxide layer atop a silicon surface of one conductivity type;

forming a layer of polysilicon atop said gate oxide layer; etching said polysilicon layer and [the] said underlying gate oxide layer into a plurality of spaced stripes of oxide and polysilicon overlying said oxide; implanting and diffusing a plurality of spaced first base diffusion stripes of the other conductivity type into said silicon surface, using said stripes of polysilicon as a mask; implanting and diffusing a plurality of source diffusions into said first base diffusion stripes, using said stripes of polysilicon as a mask, and leaving invertible channel regions along the outer edges of said first base diffusion stripes; diffusing [third] second base diffusion stripes, into said silicon surface, using said stripes of polysilicon as a mask, to a depth [about equal to] below that of said [first] source diffusions and a width substantially equal to the space between the opposite edges of adjacent pairs of said polysilicon stripes.

11. (Amended) The process of claim 9 wherein said first base diffusions have a depth of about [0.4] 1.25 microns and said [second base] source diffusions have a depth of about [1.25] 0.4 microns.

12. (Amended) The process of claim 10 wherein said first base diffusions have a depth of about [0.4] 1.25 microns and said [second base] source diffusions have a depth of about [1.25] 0.4 microns.